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BRITISH STANDARDS

FOR

ANNEALED COPPER CONDUCTORS

FOR

ELECTRIC POWER AND LIGHT

(UP TO 1 SQUARE INCH AREA).

UNIVERSITY OF TORONTO
MAY 19 1920
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TABLE 1.

BRITISH STANDARDS FOR CIRCULAR WIRES.

(STANDARD ANNEALED COPPER.)

1	2	3	4	5	6	7	8	9	10	11	12
Diameter at 60° F.			Calculated Area.	Weight per 1,000 yards.			Resistance per 1,000 yards at 60° F.			Resistance per 1,000 yards at 20° C.	Diameter at 60° F.
Standard.	Minimum Allowable.	Maximum Allowable.		Standard	Minimum Allowable.	Maximum Allowable.	Standard.	Maximum Allowable for Plain Wires.	Maximum Allowable for Tinned Wires.	Standard	Standard.
Inch.	Inch.	Inch.	Sq. in.	lbs.	lbs.	lbs.	Ohms.	Ohms.	Ohms.	Ohms.	Inch.
0·0076	0·007485	0·007713	0·00004536	0·5246	0·5089	0·5404	529·2	545·1	555·7	538·7	0·0076
0·0100	0·009849	0·01015	0·00007854	0·9083	0·8810	0·9355	305·7	314·9	321·0	311·1	0·0100
0·0120	0·01182	0·01218	0·0001131	1·308	1·269	1·347	212·3	218·6	222·9	216·1	0·0120
0·0180	0·01773	0·01827	0·0002545	2·943	2·855	3·031	94·35	97·18	99·06	96·03	0·0180
0·0290	0·02856	0·02943	0·0006605	7·639	7·410	7·868	36·35	37·44	38·16	37·00	0·0290
0·0360	0·03546	0·03654	0·001018	11·77	11·42	12·12	23·59	24·29	24·77	24·01	0·0360
0·0440	0·04333	0·04466	0·001521	17·58	17·06	18·11	15·79	16·26	16·42	16·07	0·0440
0·0520	0·05121	0·05277	0·002124	24·56	23·82	25·30	11·30	11·64	11·76	11·51	0·0520
0·0640	0·06303	0·06495	0·003217	37·20	36·09	38·32	7·463	7·687	7·761	7·596	0·0640
0·0720	0·07091	0·07307	0·004072	47·09	45·67	48·50	5·897	6·074	6·133	6·002	0·0720
0·0830	0·08175	0·08424	0·005411	62·57	60·70	64·45	4·437	4·570	4·615	4·516	0·0830
0·0930	0·09159	0·09438	0·006793	78·56	76·20	80·92	3·534	3·640	3·676	3·597	0·0930
0·1030	0·1014	0·1045	0·008332	96·36	93·47	99·25	2·881	2·968	2·996	2·933	0·1030

TABLE 2.

BRITISH STANDARDS FOR SINGLE AND STRANDED CIRCULAR CONDUCTORS.

(STANDARD ANNEALED COPPER.)

1	2	3	4	5	6	7	8	9
Standard Sizes.		Number and Diameter of Wires comprising Conductor.	Weight per 1,000 yards.		Resistance per 1,000 yards at 60° F.			Standard Sizes.
Nominal Area.	Calculated Area.		Standard.	Minimum Allowable.	Standard.	Maximum Allowable for Plain Wires.	Maximum Allowable for Tinned Wires.	Nominal Area.
Sq. in.	Sq. in.	Inch.	lbs.	lbs.	Ohms.	Ohms.	Ohms.	Sq. in.
0·0010	0·001018	1/·036	11·77	11·42	23·59	24·29	24·77	0·0010
0·0015	0·001521	1/·044	17·58	17·06	15·79	16·26	16·42	0·0015
0·0020	0·001943	3/·029	23·37	22·91	12·36	12·61	12·85	0·0020
0·0030	0·002994	3/·036	36·02	35·30	8·019	8·180	8·340	0·0030
0·0030	0·003217	1/·064	37·20	36·09	7·463	7·687	7·761	0·0030
0·0045	0·004546	7/·029	54·39	53·30	5·281	5·387	5·493	0·0045
0·0070	0·007005	7/·036	83·81	82·14	3·427	3·496	3·564	0·0070
0·0100	0·01046	7/·044	125·2	122·7	2·294	2·340	2·363	0·0100
0·0145	0·01462	7/·052	174·9	171·4	1·643	1·675	1·692	0·0145
0·0225	0·02214	7/·064	264·9	259·6	1·084	1·106	1·117	0·0225
0·0400	0·03960	19/·052	475·5	466·0	0·6063	0·6184	0·6244	0·0400
0·0600	0·06000	19/·064	720·3	705·9	0·4002	0·4082	0·4122	0·0600
0·0750	0·07592	19/·072	911·6	893·4	0·3162	0·3225	0·3257	0·0750
0·1000	0·1009	19/·083	1211	1187	0·2380	0·2427	0·2451	0·1000
0·1200	0·1168	37/·064	1403	1375	0·2056	0·2097	0·2118	0·1200
0·1500	0·1478	37/·072	1776	1741	0·1625	0·1657	0·1673	0·1500
0·2000	0·1964	37/·083	2360	2313	0·1223	0·1247	0·1259	0·2000
0·2500	0·2465	37/·093	2963	2904	0·09738	0·09933	0·1003	0·2500
0·3000	0·3024	37/·103	3635	3562	0·07939	0·08098	0·08177	0·3000
0·4000	0·4064	61/·093	4886	4789	0·05908	0·06026	0·06085	0·4000
0·5000	0·4985	61/·103	5994	5874	0·04816	0·04913	0·04961	0·5000
0·6000	0·6032	91/·093	7290	7144	0·03961	0·04040	0·04079	0·6000
0·7500	0·7435	91/·103	8942	8763	0·03229	0·03294	0·03326	0·7500
1·0000	1·0376	127/·103	12481	12231	0·02314	0·02360	0·02383	1·0000

TABLE 3.

BRITISH STANDARD CONDUCTORS FOR FLEXIBLE CORDS.

(STANDARD ANNEALED COPPER.)

1	2	3	4	5
Number of wires in flexible cords. Nominal diameter of each wire 0·0076 inch.				
Nominal Area.	Number and Diameter of Wires comprising Conductor.	Resistance per 1,000 yards at 60° F.		
		Standard.	Maximum Allowable for Plain Wires.	Maximum Allowable for Tinned Wires.
Sq. in.	Inch.	Ohms.	Ohms.	Ohms.
0·0006	14/·0076	39·7	40·5	41·3
0·0010	23/·0076	24·2	24·6	25·1
0·0017	40/·0076	13·9	14·2	14·4
0·0030	70/·0076	7·94	8·10	8·26
0·0048	110/·0076	5·05	5·15	5·25
0·0070	162/·0076	3·43	3·50	3·57

TABLE 4.

NUMBER OF WIRES IN STANDARD CONDUCTORS FOR FLEXIBLE CABLES.

(STANDARD ANNEALED COPPER.)

1	2	3	4	5	6	7	8
Diameter of each wire as at head of column.							
Nominal Area.	Number and Diameter of Wires comprising Conductor.				Resistance per 1,000 yards at 60° F.		
	Nominal diameter 0·010 inch.	Nominal diameter 0·012 inch.	Nominal diameter 0·018 inch.	Nominal diameter 0·029 inch.	Standard.	Maximum Allowable for Plain Wires.	Maximum Allowable for Tinned Wires.
Sq. in.					Ohms.	Ohms.	Ohms.
0·0100	140/·010				2·29	2·34	2·39
0·0145	195/·010		60/·018*		1·64	1·68	1·71
0·0225	296/·010		91/·018*		1·08	1·11	1·13
0·0400		368/·012	163/·018*		0·606	0·618	0·631
0·0600		557/·012	248/·018*		0·400	0·408	0·416
0·0750		705/·012	313/·018	121/·029*	0·316	0·323	0·329
0·1000			416/·018	160/·029*	0·238	0·243	0·247
0·1200			482/·018	186/·029*	0·206	0·210	0·214
0·1500			610/·018	235/·029*	0·163	0·166	0·169
0·2000			810/·018	312/·029*	0·122	0·125	0·127
0·2500			1017/·018	392/·029*	0·0974	0·0993	0·101
0·3000				481/·029	0·0794	0·0810	0·0826
0·4000				646/·029	0·0591	0·0603	0·0614
0·5000				792/·029	0·0482	0·0491	0·0501

* For trailing Cables and similar purposes.

The areas of the conductors in Table 4 are given in nominal figures, an addition having been made to the number of wires to give the same resistance as for the corresponding areas in Table 2.